Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A method for determining the function ~~or effect of an~~ of one or more effector nucleic acid ~~sequence~~ sequences from a library of effector nucleic acid sequences ~~or a chemical modulator from a library of chemical modulators of known and unknown function on a population of cells~~ comprising:

i) determining the distribution of a detectable label expressed from one of a group of ~~an~~ indicator nucleic acid sequences expressed ~~sequence~~ in ~~said~~ cells in both the presence and ~~or~~ the absence of one of a ~~first~~ group of chemical modulators ~~modulator,~~ which affect ~~modulator affects~~ said distribution of said detectable label, wherein the cells express one of said ~~are both co-expressing said library of~~ effector nucleic acid sequences ~~and are in the presence of said library of second chemical modulators; and~~;

ii) repeat step i) with a different effector nucleic acid sequence from said library of effector nucleic acid sequences;

iii) analyzing ~~analyzing~~ the distribution data of said detectable label from all combinations of said ~~effector~~ effectors, modulator and indicator to derive

functional linkages among said effectors, modulator and indicator; and ~~assign function to the effector and said second modulator~~

iv) repeating steps i) to iii) with different combinations of effector nucleic acid sequences, chemical modulators and indicator nucleic acid sequences until a function is assigned successfully to said one or more effector nucleic acid sequences.

Claim 2 (cancelled)

Claim 3 (currently amended): The method of claim 1, wherein each of the effector nucleic acid sequences ~~sequence~~ encodes a protein or peptide and is selected from the group consisting of DNA, cDNA, RNA and Protein Nucleic Acid.

Claim 4 (currently amended): The method of claim 1, wherein each of the effector nucleic acid sequences is an antisense oligonucleotide.

Claim 5 (withdrawn, currently amended): The method of claim 1, wherein each of the effector nucleic acid sequences is a small interfering RNA (siRNA) which causes gene silencing.

Claim 6 (currently amended): The method of claim 1, wherein each of the effector nucleic acid sequences includes a nucleic acid sequence in a cellular expression vector.

Claim 7 (original): The method of claim 6, wherein said expression vector is selected from the group consisting of plasmid, retrovirus and adenovirus.

Claim 8 (cancelled)

Claim 9 (currently amended): The method of claim 1, wherein each ~~the~~ indicator nucleic acid sequence is created by fusing the effector nucleic acid sequence to a nucleic acid sequence encoding a detectable label.

Claim 10 (previously presented): The method of claim 1, wherein said detectable label is selected from the group consisting of fluorescent proteins, enzymes, antigens and antibodies.

Claim 11 (currently amended): The method of claim 10, wherein said fluorescent proteins are ~~protein is a~~ modified Green Fluorescent Proteins ~~Protein~~ (GFP) having one or more mutations selected from the group consisting of Y66H, Y66W, Y66F, S65T, S65A, V68L, Q69K, Q69M, S72A, T203I, E222G, V163A, I167T, S175G,

F99S, M153T, V163A, F64L, Y145F, N149K, T203Y, T203Y, T203H, S202F and L236R.

Claim 12 (currently amended): The method of claim 11, wherein said modified GFP have ~~has~~ three mutations selected from the group consisting of F64L-V163A-E222G, F64L-S175G-E222G, F64L-S65T-S175G and F64L-S65T-V163.

Claim 13 (withdrawn, currently amended): The method of claim 10, wherein said enzymes are ~~enzyme is~~ selected from the group consisting of β-galactosidase, nitroreductase, alkaline phosphatase and β-lactamase.

Claims 14-15 (cancelled)

Claim 16 (currently amended): The method of claim 1, wherein said cells are ~~cell is an~~ eukaryotic cells ~~cell~~.

Claim 17 (currently amended): The method of claim 16, wherein said eukaryotic cells are ~~cell is~~ selected from the group consisting of mammal, plant, bird, fungus, fish and nematode cells, which cells ~~cell~~ may or may not be genetically modified.

Claim 18 (currently amended): The method of claim 17, wherein said mammalian cells are human cells ~~cell is a human cell~~.

Claim 19 (previously presented): The method of claim 1, wherein the distribution of the detectable label is determined using an imaging system.

Claim 20 (cancelled)